REMARKS

Entry of the foregoing, reexamination and further and favorable reconsideration of the subject application in light of the following remarks, pursuant to and consistent with 37 C.F.R. § 1.112, are respectfully requested.

By the foregoing amendment, the Abstract has been replaced with a new Abstract that includes the amendment as suggested by the Examiner. Additionally, claims 39, 44, 50, 56 and 59 have been amended, and claims 62-64 have been newly added. Support for the amendments to the claims and for the newly added claims can be found throughout the originally filed application. For instance, support for the amendment to claim 39 can be found on at least page 5, lines 9-15, and original claim 8. Support for the amendments to claim 44 can be found on at least page 12. The amendment to claim 50 simply revises the claim dependency and the amendment to claim 59 places the application in better form for United States practice. Support for the amendments to claim 56 can be found, for example, on page 18, line 15 in relation to the paragraph on page 15, lines 12-19, and original claims 18 and 19. Support for new claims 62-64 can be found in at least original claim 36. Thus, no new matter has been added. Further, by the present amendment, claim 47 has been canceled without prejudice or disclaimer.

Turning now to the Official Action, the Examiner has acknowledged the error in the restriction requirement with regard to the stated pending claims. The Examiner, however, was not persuaded by the traversal of the restriction requirement and thus non-elected claims 60 and 61 have been withdrawn from further consideration.

The Examiner has acknowledged that, at the time the application was filed (see Request for Filing Continuation Application, at 2, ¶ 9), the specification was amended to indicate that benefit of priority was claimed to Application No. 08/809,562. However, on page 3 of the Office Action, the Examiner has indicated that should applicants seek the benefit of PCT/FR96/01165, the first paragraph of the specification needs to be amended to indicate that benefit of priority is claimed. However, Application No. 08/809,562 is a national stage application under 35 U.S.C. § 371. Pursuant to M.P.E.P. § 1893.03(c), "it is not necessary for the applicant to amend the first sentence of the specification to reference the international application number . . . ." Since applicants have complied with the requirements for priority including 37 C.F.R. § 1.78, the Examiner is respectfully requested to acknowledge applicants priority to PCT/FR96/01165. If the Examiner would prefer the first paragraph of the specification to reference PCT/FR96/01165, applicants would be willing to do so without the requirement of filing a petition since applicants did not delay their claim for priority.

The Examiner has also objected to the Abstract for stating "said" and has required appropriate correction. See Official Action at 5. While the present abstract was deemed satisfactory for now issued United States Patent No. 6,204,060, applicants have hereby amended the Abstract so as to replace "said" with the term "the".

Rejection Under 35 U.S.C. § 102(e)

Claims 39-41 and 49-59 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Wilson et al. (United States Patent No. 5,856,152) or

Wilson et al. (United States Patent No. 5,585,362). This rejection is respectfully traversed.

For prior art to be anticipatory, every element of the claimed invention must be disclosed in a single item of prior art in the form literally defined in the claim. *See, e.g., Hybritech Inc. Monoclonal, Antibodies, Inc.*, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986).

Wilson et al. ('152) disclose a hybrid adenovirus/AAV vector containing portion of adenovirus genome equipped with the 5' and 3' AAV ITRs. Wilson et al. ('362) teach E1-deleted adenoviral vectors comprising a thermo sensitive mutation in the adenoviral gene E2 so as to reduce expression of adenoviral proteins or viral replication.

However, in Wilson's adenoviral vector (the vector disclosed in the '152 patent and the '362 patent), the viral expression unit is placed under the control of its own promoter *(i.e.*, endogenous regulator sequence), such as the E4 promoter. Moreover, there is no suggestion in either Wilson et al. patent ('152 and '362) to modify the regulatory elements controlling expression of the adenoviral sequences retained in the adenoviral backbone.

In marked contrast, the present invention is directed to a viral vector retaining an expression unit containing one or more viral genes wherein the regulatory elements controlling expression of the viral genes comprise one or more heterologous regulator sequences.

As neither the Wilson et al. '152 patent nor '362 patent disclose the inclusion of heterologous regulator sequences in the viral expression unit such patents fails to disclose very element of the claimed invention. Accordingly, neither Wilson et al.

patent anticipates the claimed invention. Withdrawal of this anticipation rejection is therefore respectfully requested.

Double patenting rejection

Claims 39-59 have been rejected under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claims 1-29 and 31-42 of United States Patent No. 6,204,060. This rejection is respectfully traversed.

Applicants submit that the presently amended claims are patentably distinct from the subject matter claimed in claims 1-29 and 31-42 of the parent United States Patent No. 6,204,060. Indeed, the presently pending claims are now drawn to viral vectors derived from herpesviruses, cytomegaloviruses, AAV and poxviruses whereas the claims of the parent patent are directed to adenoviral vectors.

In light of the above, the Examiner is respectfully requested to withdraw this rejection.

Rejections Under 35 U.S.C. § 112, first paragraph

Claims 39-59 have been rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. More specifically, the Examiner contends that the claims read on a genus of viral vectors while the specification discloses adenoviral vectors, adenoviral particles and adenoviral complementation cells as well as methods of making infectious adenoviral particles having the recited characteristics. The Examiner concludes that given the diversity of viruses contemplated by the present invention, the single example disclosed herein would not be considered by the skilled artisan to be a representative number

of species sufficient to describe the claimed genus. This rejection is respectfully traversed.

In the interest of expediting prosecution, and not to acquiesce to the Examiner's rejection, applicants have amended the pending claims to viral vectors derived from viruses selected from the group consisting of herpesviruses, cytomegaloviruses, AAV and poxviruses. This amendment is made without prejudice to applicant's right to pursue the deleted subject matter in one or more continuing application(s).

Applicants submit that the viral vectors presently claimed are related to viruses that are well known in the art. Such viruses have been previously recombinantly manipulated so as to express genes of interest and methods and means for generation of infectious particles are available in the art and known to an ordinary artisan.

In view of the above, Applicants respectfully request withdrawal of this written description rejection.

Claims 39-59 have been rejected under 35 U.S.C. § 112, first paragraph, because the specification allegedly fails to enable one skilled in the art to make and use the invention commensurate in scope with these claims. More specifically, the Examiner contends that the specification is not enabling for viral vectors other than adenoviral vectors. This rejection is respectfully traversed.

Applicants submit that the claims, as amended, are directed to specific viral vectors. As discussed above, these viral vectors have been previously recombinantly manipulated so as to express genes of interest. Moreover, the general methods of making infectious particles thereof are known in the art and

could be practiced by the person skilled in the art without undue burden. Indeed, in March of 1997, the skilled person could use the general techniques of genetic engineering for providing the specific vectors according to the invention by integrating in a viral expression unit present in the viral genome and heterologous regulatory sequence as proposed in the present invention, so as to obtain that the resulting viral expression unit be functional during virus propagation (*i.e.*, in the complementation cell line) and non-functional in the targeted host cell (*e.g.*, in the treated organism).

In light of the above, withdrawal of this enablement rejection is respectfully traversed.

Rejection Under 35 U.S.C. § 112, second paragraph

Claims 39-53 have been rejected under 35 U.S.C. § 112, second paragraph, for allegedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is respectfully traversed.

The formulation of claim 39 has been considered by the Examiner as being vague. More specifically, the Examiner argues that it is unclear whether the phrase ". . . and comprising one or more heterologous regulatory sequences" relates to the vector or to the expression unit. To expedite prosecution and to acquiesce to the Examiner's rejection, applicants have amended claim 39 so as to clarify that it is the viral expression unit that is modified to comprise one or more heterologous regulatory sequences.

Claim 44 has also been considered as vague for the use of abbreviations in connection with regulatory sequences without spelling out these terms. Once again solely to expedite prosecution, applicants have amended claim 44 by introducing the

full name of the recited regulatory sequences as disclosed on page 12 of the specification. Moreover, the typographical error present in claim 44 has been corrected as requested by the Examiner so as to recite "bacterial tryptophan, lactose and tetracycline operons".

Claims 45 and 46 have been rejected as allegedly being vague due to the recitation of "said promoter". Applicants have, without prejudice, replaced the rejected term with the expression "the promoter of said expression unit".

Claim 50 has been rejected as allegedly being vague due to the absence of antecedent basis for the term "exogenous nucleotide sequence" in claim 39. To expedite prosecution, applicants have modified the claim dependency. Claim 50 now refers back to claim 49 instead of 39.

Claim 56 has been rejected as allegedly being vague due to the recitation of the term "derived from" in connection with the 293 cells. Without acquiescing to the Examiner's rejection but rather to expedite prosecution, claim 56 has been amended to clarify that the 293 cells are the starting material that is modified to comprise an inducer and/or a repressor or comprise a DNA fragment coding for an inducer and/or a repressor. In this regard, applicants believe that the term "derived" is appropriate in this context.

Claim 59 has been rejected as allegedly being unclear. The claimed composition of claim 59 contains each of the recited elements separately. In other words, claim 59 covers three types of composition, respectively a composition comprising the viral vector according to the invention, a composition comprising infectious viral particles according to the invention, and a composition comprising a eukaryotic host cell according to the

invention. However, to expedite prosecution and not to acquiesce to the Examiner's rejection, claim 59 is drawn to one single type of composition (*i.e.*, a composition comprising the viral vector of claim 39) and new claims 62-64, respectively, are directed to the other types of compositions.

In view of all of the above, applicants respectfully request that the Examiner withdraw the rejection under 35 U.S.C. § 112, second paragraph.

On page 14 of the Office Action, the Examiner has indicated that the Office has no record of the Information Disclosure Statement which was filed on March 19, 2001. Enclosed herewith is a copy of the Information Disclosure Statement Transmittal Letter, Information Disclosure Statement and form PTO-1449 which was filed with the subject continuation application on March 19, 2001. Additionally, enclosed herewith is a copy the postcard receipt date-stamped by the United States Patent and Trademark Office evidencing that the Information Disclosure Statement materials were filed on March 19, 2001. The Examiner is respectfully requested to return an Examiner initialed copy of the form PTO-1449 to the undersigned.

Lastly, the Examiner has objected to the drawings on various grounds. It is noted that the formal drawings which were submitted with the present application were the very same drawings which were submitted and considered acceptable in connection with now issued United States Patent No. 6,204,060. Nevertheless, enclosed herewith is a Submission of Formal Replacement Drawings along with twelve (12) replacement drawing sheets for Figures 1-12 of the present application. Accordingly, the Examiner is respectfully requested to withdraw the objections to the drawings and indicate that such drawings are acceptable.

In view of the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order. Such action is earnestly solicited.

In the event that there are any questions relating to this Amendment and Reply, or the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney concerning such questions so that the prosecution of this application may be expedited.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

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By: _____
Susan M. Dadio
Registration No. 40,373

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620